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IN THE INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY  
UNITED STATES PATENT AND TRADEMARK OFFICE

In the **PCT APPLICATION** of:

InterDigital Technology Corporation

**Application No.:** PCT/US03/20038

**Filed:** 25 June 2003

**For:** METHOD AND SYSTEM FOR  
AUTOMATED DETERMINATION  
OF INTER-SYSTEM BORDER  
THRESHOLDS

Authorized Officer: Melvin Marcelo

**File:** I-2-0340.1WO

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**REPLY TO WRITTEN OPINION  
WITH ARTICLE 34 AMENDMENTS**

IPEA-US  
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Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This Reply is responsive to the Written Opinion dated April 6, 2004. For convenience, an annotated version of the amended claims is enclosed along with a set of replacement pages.

Claims 1-19 are currently pending in this application. The Applicant notes with appreciation the Examiner's positive determination of claims 1-19 with respect to industrial applicability. With respect to the negative determination of novelty and inventive step for claims 1-19, the Applicant respectfully disagrees.

In the Written Opinion, the Examiner cites U.S. Pat. No. 5,737,703 to Byrne (Byrne). Byrne discloses a cellular cordless telephone (CCT) that is capable of handing over between a cellular telephone system and a cordless telephone system,

such as CT-2 or DECT. A CCT includes two separate units supporting a cellular telephone system and a cordless telephone system, respectively. The CCT monitors radio system availability and registers with a preferred one after performing certain criteria, such as a cost per call, or bit error rate. The CCT may initiate a call through the preferred system, and may handover to the preferred system after the call is initiated.

The present invention is related to a method for handover between a TDD system and an FDD system. In the present invention, a minimum quality level of the current system is determined using the threshold value for an intra-system handover, and a minimum quality level of the other system is determined using the coverage reports from a plurality of multimode wireless transmit/receive units (WTRUs) in the current system. The two minimum quality levels are compared with each other, or alternatively with thresholds respectively, and a handover decision is made based on the comparison.

With respect to claim 1, a decision for inter-system handover is made based on the result of a comparison of minimum quality levels of the two systems. Claim 1 as presently amended reads as follows:

1. A method for determining thresholds for evaluating inter-system handovers in a wireless communication system, comprising the steps of:
  - determining a quality level of a first digital duplexing type based on the threshold value for intra-system handover of the first digital duplexing type;
  - determining a quality level of a second digital duplexing type based on the coverage report from a plurality of multi-mode wireless transmit/receive units (WTRUs); and
  - comparing the quality levels to determine whether to handover from the first digital duplexing type to the second duplexing type. (Emphasis added)

The minimum quality level of the first duplexing type is determined based on the level required for an intra-system handover, and the minimum quality level of the second duplexing type is determined based on the coverage reports from a plurality of WTRUs located in the first system. The minimum quality levels for inter-system

handover are determined by a radio network controller (RNC) serving the plurality of WTRUs and are provided to the WTRUs. The WTRUs use these values to determine whether a quality level of the frequency in which they are communicating is below a certain threshold and whether a quality level of a non-used frequency is above a certain threshold. If both of these determinations are positive, a WTRU is a candidate for being handed over by an RNC from the currently used frequency to the non-used frequency.

In contrast, in Byrne, a minimum quality level is not determined based on the values for intra-system handover or reports from a plurality of WTRUs. Moreover, in Byrne, the critical values for handover are not set by the system, but merely measured by an individual CCT. A CCT merely monitors availability of two systems and determines preferred system based on some measurements by itself. Byrne discloses as follows:

Briefly, the CCT 200 monitors the radio system availability and registers with a radio system (known as the preferred system) fulfilling a certain predetermined criterion or criteria, such as cost per call, bit error rate or such like. The CCT 200 continuously monitors for radio system availability, and automatically selects and re-selects radio systems according to the aforementioned criterion or criteria.

In seamless handover, a connection to a new radio telephone system is made before breaking the existing connection ...

- iv) CCT 200 maintains both connections for a period of time to monitor the quality of both connections;
- v) CCT 200 releases one or other of the connections dependent upon their quality;

(See column 6 lines 22-30, and column 8 lines 19-45). In Byrne, a CCT establishes two connections with both a cellular system and a cordless telephone system before making handover, and maintains both connections to monitor the quality of both connections, and makes a handover decision dependent on the quality of the two connections. Unlike the present invention, in Byrne a, handover decision is based on the comparison of the quality of two current connections, not a minimum quality level of the two systems. Byrne fails to disclose, teach or suggest a scheme of making a handover decision based on minimum quality levels generated from the inter-system handover level and coverage reports for the other system from a

plurality of multi-mode WTRUs operating in the current system. Therefore, claim 1 is not anticipated by Byrne, and for the same reason, claims 2-18 are also allowable.

With respect to claim 19, the Examiner indicated that Figure 1 in Byrne disclosed the same system. However, Byrne fails to disclose "a radio network controller having instructing means for instructing each of the plurality of WTRUs to report the extent of coverage of the second duplexing type". Therefore, as stated above with respect to claim 1, claim 19 is also not anticipated by Byrne.

For the reasons stated above, the Applicant respectfully submits that the presently claimed invention meets the requirements of novelty, inventive step and industrial applicability. A favorable International Preliminary Examination Report is respectfully requested.

Respectfully submitted,

InterDigital Technology Corporation

By

  
John C. Donch Jr.

Registration No. 43,593

Telephone: 215-568-6400

Facsimile: 215-568-6499

Volpe and Koenig, P.C.  
United Plaza, Suite 1600  
30 South 17th Street  
Philadelphia, PA 19103

JCD/dmr

Enclosures (2)